AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1-8. (canceled).

9. (currently amended): ~~The apparatus according to claim 1,~~ An etching apparatus comprising:

a rotating means for holding a semiconductor wafer and for rotating said wafer in a horizontal plane, wherein said wafer comprises a device area and a surface peripheral area on a first surface, said surface peripheral area being located outside said device area; and

an edge nozzle for emitting an etching liquid toward the surface peripheral area of said wafer, wherein said etching liquid emitted from said edge nozzle selectively etches out an unnecessary material existing in said surface peripheral area of said wafer,

wherein said etching liquid emitted from said edge nozzle has an emission direction oriented along a rotation direction of said wafer or outward with respect to a tangent of said wafer formed near a contact point of said liquid with said surface peripheral area of said wafer, and

wherein said rotating means is of a pin-chucking type comprising first pins and second pins supported by a supporting member; said first pins and said second pins are alternately arranged along an end face of said wafer; and said first pins and said second pins are

alternatively contacted with said end face of said wafer to hold said wafer and rotate said wafer synchronously with said member.

10. (currently amended): ~~The apparatus according to claim 1,~~ An etching apparatus comprising:

a rotating means for holding a semiconductor wafer and for rotating said wafer in a horizontal plane, wherein said wafer comprises a device area and a surface peripheral area on a first surface, said surface peripheral area being located outside said device area; and

an edge nozzle for emitting an etching liquid toward the surface peripheral area of said wafer, wherein said etching liquid emitted from said edge nozzle selectively etches out an unnecessary material existing in said surface peripheral area of said wafer,

wherein said etching liquid emitted from said edge nozzle has an emission direction oriented along a rotation direction of said wafer or outward with respect to a tangent of said wafer formed near a contact point of said liquid with said surface peripheral area of said wafer, and

wherein said rotating means comprises first pins and second pins supported by a supporting member; said first pins are arranged along an end face of said wafer and said second pins are arranged along said end face of said wafer; during a first period, said first pins contact said end face of said wafer to hold said wafer and rotate said wafer synchronously with said member, and said second pins do not contact said wafer; and during a second period, said second pins contact said end face of said wafer to hold said wafer and rotate said wafer synchronously with said member, and said first pins do not contact said wafer.

11-21. (canceled).

22. (currently amended): ~~The apparatus according to claim 14,~~ A cleaning apparatus comprising:

a rotating means for holding a semiconductor wafer and for rotating said wafer in a horizontal plane, wherein said wafer comprises a device area and a surface peripheral area on a first surface, said surface peripheral area being located outside said device area; and

an edge nozzle for emitting a cleaning liquid toward the surface peripheral area of said wafer, wherein said cleaning liquid emitted from said edge nozzle selectively removes an unnecessary material existing in said surface peripheral area of said wafer,

wherein said cleaning liquid emitted from said edge nozzle has an emission direction oriented along a rotation direction of said wafer or outward with respect to a tangent of said wafer formed near a contact point of said liquid with said surface peripheral area of said wafer,and

wherein said rotating means is of a pin-chucking type comprising first pins and ~~a~~ second pins supported by a supporting member; said first pins and said second pins are alternately arranged along an end face of said wafer; and said first pins and said second pins are alternatively contacted with said end face of said wafer to hold said wafer and rotate said wafer synchronously with said member.

23. (currently amended): ~~The apparatus according to claim 14,~~ A cleaning apparatus comprising:

a rotating means for holding a semiconductor wafer and for rotating said wafer in a horizontal plane, wherein said wafer comprises a device area and a surface peripheral area on a first surface, said surface peripheral area being located outside said device area; and

an edge nozzle for emitting a cleaning liquid toward the surface peripheral area of said wafer, wherein said cleaning liquid emitted from said edge nozzle selectively removes an unnecessary material existing in said surface peripheral area of said wafer,

wherein said cleaning liquid emitted from said edge nozzle has an emission direction oriented along a rotation direction of said wafer or outward with respect to a tangent of said wafer formed near a contact point of said liquid with said surface peripheral area of said wafer,and

wherein said rotating means comprises ~~a~~ first pins and second pins supported by a supporting member; said first pins are arranged along an end face of said wafer and said second pins are arranged along said end face of said wafer; during a first period, said first pins contact said end face of said wafer to hold said wafer and rotate said wafer synchronously with said member, and said second pins do not contact said wafer; and during a second period, said second pins contact said end face of said wafer to hold said wafer and rotate said wafer synchronously with said member, and said first pins do not contact said wafer.

24-28. (canceled).